

Abstract of the Disclosure

A semiconductor wafer cleaning formulation, including 1-35% wt. fluoride source, 20-60% wt. organic amine(s), 0.1-40% wt. nitrogenous component, e.g., a nitrogen-containing carboxylic acid or 5 an imine, 20-50% wt. water, and 0-21% wt. metal chelating agent(s). The formulations are useful to remove residue from wafers following a resist plasma ashing step, such as inorganic residue from semiconductor wafers containing delicate copper interconnecting structures.